

Claims

1. A method for hemofiltration, comprising the steps of:  
withdrawing blood through a blood withdrawal line at a rate of at least 300  
5 ml/min.;  
passing the blood through a filter to remove waste; and  
passing the filtered blood through a blood return line and into the patient,  
wherein blood is withdrawn from and returned to the patient continuously for  
about 1.5 hours, and wherein the ratio of the clearance rate to blood flow rate is at least 100:400.

10 2. The method of claim 1, further comprising the step of repeating the procedure at  
least four times per week.

3. The method of claim 1, wherein the filter is disposable.

4. The method of claim 1, wherein the blood withdrawal line, the filter, and the  
blood return line are pre-attached.

15 5. The method of claim 1, wherein an amount of replacement fluid is added to the  
blood, and wherein the amount is determined by gravimetric balancing of the replacement fluid  
and the waste.

6. The method of claim 1, further comprising the step of repeating the procedure at  
least daily.

20 7. The method of claim 1, wherein the procedure is conducted at home.

8. The method of claim 5, wherein the amount of the replacement fluid is  
approximately 9–13 liters.

9. The method of claim 5, wherein the replacement fluid is added to the blood after  
filtration.

25 10. The method of claim 1, further comprising the step of repeating the procedure for  
more than one week.

11. The method of claim 1, further comprising the steps of connecting the blood  
withdrawal line to the patient and connecting the blood return line to the patient.

12. The method of claim 11, wherein the blood withdrawal line and the blood return line are connected to the patient through a subcutaneous port.

13. The method of claim 1, further comprising the steps of:  
pumping the withdrawn blood with a pump at a predetermined blood flow rate;  
5 measuring the actual blood flow rate delivered by the pump;  
comparing the actual blood flow rate with the predetermined blood flow rate; and  
activating an alarm when the difference between the actual blood flow rate with  
the predetermined blood flow rate exceeds a predetermined value.

14. The method of claim 1, wherein the blood withdrawal line and the blood return  
10 line are in registry with a peristaltic pump.

15. The method of claim 1, wherein at least one of the blood withdrawal line and the  
blood return line further comprises a leak detector.

16. The method of claim 5, wherein replacement fluid is delivered through a  
replacement fluid line, and wherein the replacement fluid line further comprises an ultrasonic  
15 detector to indicate when replacement fluid is empty.

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